

HEATING SOLUTIONS

Biofuels Consultation,
Heat and Transport Energy Policy,
Dept of Communications, Climate Action and Environment,
29-31 Adelaide Rd.,
Dublin 2
DO2 X285

29 October, 2019

Dear Sirs,

Your Refs: Consultation on the development of the Biofuels Obligation Scheme for the period 2021 to 2030.

About Firebird & our industry

Firebird Heating Solutions Ltd. is an Irish owned central heating appliance manufacturer based in Baile Mhic Íre, Co. Cork, with distribution depots in Armagh and Devon. We are best known for our range of high efficiency condensing low NOx liquid fuel central heating boilers that we sell in Ireland, NI, GB and to our customers in Europe, Australasia and America.

The liquid fuel domestic central heating appliance manufacturing industry is an Irish success story. Well over 50% of oil boilers and tanks sold in the UK are manufactured in Ireland, with Firebird and three others in ROI and three manufacturers in N.I. Nearly all equipment in Ireland is Irish made.

We are members of the Oftec and UKIFDA trade associations.

We welcome the inclusion of the Heat Sector in the consultation regarding biofuel obligations. Our response to Question 16 as regards liquid heating fuels follows:

Question 16 a

What is your opinion on the potential for an obligation scheme (similar to the Biofuels Obligation Scheme) in the heating sector.

A Biofuel Obligation Scheme has the potential to eliminate 30% of the carbon emissions from liquid fuel heating very quickly and at little cost to most homeowners in terms of fuel costs or capital costs and at a very low cost to the exchequer.

There is goodwill, technical expertise and a willingness to engage by the liquid fuel heating industry and its trade associations. Virtually all oil boilers and oil tanks in situ were produced on our Island so rapid progress is easily achievable with this local expertise. As an obligation scheme is set by government and not industry, we would

require positive engagement by the Department to agree an ambitious and realistic timetable. We also ask the Department to assist us in setting a fuel specification, as some biodiesel FAME feedstocks work perfectly well with heating systems and some do not.

Our goal should be to move 100% of all heating oil to a B30K 30% biofuel blend on specific date before 2027 at the very latest. Climate change has started and Ireland needs to reduce its carbon emissions quickly.

The advanced and synthetic fuels being developed for the aviation industry will enable the full decarbonisation of liquid fuel in the longer term.

Question 16 b

What do you see as the technical barriers to introducing such a scheme.

Firebird has experience of using biofuel and biofuel blends as fuel for heating systems. There are no technical barriers in that there are no new scientific or engineering uncertainties to overcome. However good planning, organisation, effort and training is required by all those in the industry with some assistance from government.

The changes that are required are:

- a) Choice of Biofuel Feedstock & percentage blend.
- b) Equipment – Modern boilers
- c) Equipment – Older boilers
- d) Storage Tanks, oil lines and ancillaries

a) Choice of Biofuel Feedstock

Firebird has experience of using FAME from two feedstocks that are certainly suitable blending with kerosene for central heating systems. Rape seed oil (RME) and Used Cooking Oil (UCOME) are suitable biofuels but UCOME is more environmentally sustainable and is widely available. In our opinion a B30K technical standard, based on the Oftec PrOPS24 that only allows a suitable grade of UCOME as the bio element would remove many of the concerns regarding biofuel. Palm oil and Tallow are unsuitable for blending into heating fuel.

Department and industry would cooperate to ensure the new fuel specification would continue to operate as reliably as kerosene in domestic heating systems.

b) Equipment – Modern Boilers

There are virtually no changes needed for modern boilers to run on a B30K. The minor changes necessary could easily be carried out as part of the annual service

Since 2008 all Firebird boilers are compatible with a B30K (UCOME) fuel. By coincidence all of these (bar a small portion of pre 2012 units) are also high efficiency condensing models. The flexible fuel line is a serviceable part and should be upgraded to a bio version at a cost of only €15.

c) Equipment – Older inefficient Boilers

SEAI and our industry has been encouraging people with old standard efficiency boilers to reduce their fuel costs and carbon emissions by 25% by investing in modern high efficiency condensing boilers for the past decade. All modern oil fired condensing boilers are bio compatible so there is no extra cost for B30K compatibility.

Given the average life of a boiler is 20 to 25 years, then by 2025 around one third of in situ oil boilers will fall into this category and should be replaced. Heating carbon emissions from this set of homes will reduce by a compound 47.5% (25% for condensing technology by 30% for biofuel).

Simply replacing the non-bio compatible components on these old boilers would be less expensive initially but unwise, as optimum carbon reduction and fuel savings would not be achieved.

d) Storage Tanks, oil lines and ancillaries

Bio compatible fuel storage tanks, oil lines, filters and other ancillaries are widely available and were used in the Firebird Ireland and Oftec Norfolk biofuel heating installations over a decade ago. There are no technical barriers.

The planned follow on Oftec multi year trials will establish a firm set of guidelines to enable the on site heating engineer decide which tanks and other components need to be replaced for when B30K becomes obligatory and which do not.

FAME tends to absorb water more than kerosene, so existing heating oil tanks that are suitable for B30K will need to be inspected and where necessary cleaned and any water removed safely. This procedure is already best practice with kerosene.

e) Blending

Fuel importers and distributors will need to develop systems to ensure the blending process occurs at suitable temperatures. This is not new to the industry as the same process is required when blending road diesel. Blended B30K does not harden in even the coldest Irish winters.

Question 16 b

If a heat obligation scheme was to be introduced, what level of obligation would be appropriate.

Firebird would favour a 30% by volume obligation. We have experience of blends at this level. We would prefer a move to this level in one step, as if changes are required to equipment, filters etc, the changes will be the same the same for 7% as 30%. Heating oil boilers, unlike internal combustion engines are comfortable burning at a 30% bio content.

Technical problems arise in kerosene-biofuel heating fuel blends when the portion of FAME at present goes above 30%. Solutions are being worked on. In the 2030's and '40's, HVO and other zero emission synthetic fuels will become available in volumes that will be of great help with decreasing the fossil content of heating oil in Ireland to zero as required by our 2050 Paris obligations.

